



Matt Blunt, Governor • Doyle Childers, Director

## DEPARTMENT OF NATURAL RESOURCES

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FEB - 1 2006

Mr. Robert L. Davis, Colonel  
U.S. Army, Chief of Staff - FLW  
U.S. Army MANSCEN and Fort Leonard Wood  
ATZT-DPW-EE  
1334 First Street  
Ft. Leonard Wood, MO 64573,

Re: U.S. Army MANSCEN and Fort Leonard Wood, 169-0004  
Permit Numbers: **OP2006-005 through 2006-010**

Dear Colonel Davis:

Enclosed with this letter is your operating permit. Please review this document carefully. Operation of your installation in accordance with the rules and regulations cited in this document is necessary for continued compliance.

If you have any questions or need additional information regarding this permit, please contact the Air Pollution Control Program at (573) 751-4817, or you may write to the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

*for* Michael J. Stansfield, P.E.  
Permit Section Chief

MJS:mvb

Enclosures

c: Ms. Tamara Freeman, U.S. EPA Region VII  
Ms. Amy Baker, Kansas City Regional Office  
PAMS File: 169-0004-020A



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**Missouri Department of Natural Resources**  
**Air Pollution Control Program**

## PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth here in.

**Operating Permit Number:** OP2006-008  
**Expiration Date:** 01/31/2011  
**Installation ID Number:** 169-0004  
**Project Number:** 169-0004-020E

**Installation Name and Address**

U.S. Army MANSCEN and Fort Leonard Wood  
ATZT-DPW-EE  
Fort Leonard Wood, MO 65473  
Pulaski County

**Parent Company's Name and Address**

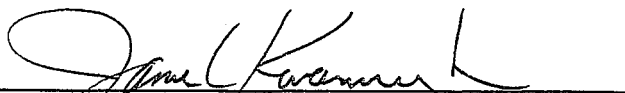
Training & Document Command  
ATBO-SE  
Fort Monroe, VA 23651-5000

**Installation Description:**

U.S. Army MANSCEN and Fort Leonard Wood is a federal military installation in Pulaski County. The operating permit is divided into six documents. This document includes the chemical and military police schools and associated units.

FEB - 1 2006

Effective Date

  
\_\_\_\_\_  
Director or Designee  
Department of Natural Resources

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## I. Installation Description and Equipment Listing

### INSTALLATION DESCRIPTION

U.S. Army MANSCEN and Fort Leonard Wood matter less than or equal to ten microns (PM<sub>10</sub>), sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), ozone (VOC) and carbon monoxide (CO).

The installation's primary purpose is to train enlisted and officer personnel of all branches of service in basic combat training, military engineering, and motor vehicle operations. The installation includes power plants, rock crushing plants, an asphalt plant, storage vessels, a chemical defense training facility, chemical and military police training schools, dry cleaners, and associated equipment.

Reported Air Pollutant Emissions, tons per year							
Year	Particulate Matter ≤ Ten Microns (PM <sub>10</sub> )	Sulfur Oxides (SO <sub>x</sub> )	Nitrogen Oxides (NO <sub>x</sub> )	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2000	82.88	5.82	73.36	135.86	470.67	--	0.66
2001	81.82	11.39	86.61	114.73	721.41	--	0.09
2002	29.41	3.53	94.46	135.89	168.69	--	0.09
2003	96.14	25.9	116.88	203.81	670.69	--	0.02
2004	155.96	29.07	62.74	158.73	1333.7	--	0.03

### EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation which emit air pollutants and which are identified as having unit-specific emission limitations.

Emission Unit #	Description of Emission Unit
EU4010	Chemical and Military Police Training Schools
EU4020	Biological Integrated Detection System/Nuclear & Chemical Reconnaissance Simulants
EU4030	Flame Field Expedient Training
EU4040	Explosive and Munitions Training
EU4050	Obscurant Training – Smoke (Fog Oil)
EU4060	Obscurant Training – Smoke Pots
EU4070	Unpaved Roads Training

### EMISSION UNITS WITHOUT LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

#### Description of Emission Source

General Officers Quarters Space Heating: 2 Natural Gas Units - 0.81 mmBtu/hr (total)  
MOUT Facility Space Heating (Equip: AC1, 2, 3 & 4): 4 Natural Gas Units - 0.161mmBtu/hr (total)  
General Instructional Facility (GIF) - Lincoln Hall (B1 & B2): 2 Natural Gas Units - 3.594 mmBtu/hr (total)  
Applied Instruction Facility Space Heating: 39 Natural Gas Units - 2.517mmBtu/hr (total)  
Range Modification Space Heating: 42 Natural Gas Units - 1.426 mmBtu/hr (total)  
Converted Family Housing Space Heating: 23 Natural Gas Units - 1.687 mmBtu/hr (total)

UEPH 1 Space Heating: 35 Natural Gas Units - 3.831 mmBtu/hr (total)  
UEPH 2 Space Heating: 10 Natural Gas Units - 2.619 mmBtu/hr (total)

**DOCUMENTS INCORPORATED BY REFERENCE**

These documents have been incorporated by reference into this permit.

1. Air Pollution Control Program Construction Permit #062003-015
2. Air Pollution Control Program Construction Permit #082002-024A
3. Air Pollution Control Program Construction Permit #082002-024
4. Air Pollution Control Program Construction Permit #022002-009
5. Air Pollution Control Program Construction Permit #052001-011
6. Air Pollution Control Program Construction Permit #052001-010
7. Air Pollution Control Program Construction Permit #052000-004A
8. Air Pollution Control Program Construction Permit #0794-011
9. Air Pollution Control Program Construction Permit #0392-011

## II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

### Permit Condition PW001

10 CSR 10-6.060

#### Construction Permits Required

Air Pollution Control Program Construction Permit #0392-011

Air Pollution Control Program Construction Permit #082002-024

#### Emission Limitation:

If a continuing situation of demonstrated nuisance dust exists where the presence of particulate matter less than ten microns (PM<sub>10</sub>) in the ambient air exists in quantities and durations that directly or proximately cause or contribute to injury to human, plant, or animal life or health, or to property, or that unreasonably interferes with the enjoyment of life or the use of property, the Director may require USA MANSCEN-FLW to submit a corrective action plan within ten days adequate to timely and significantly mitigate the emission of PM<sub>10</sub>. USA MANSCEN-FLW shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of this permit

#### Monitoring/Record Keeping/Reporting:

1. The permittee shall monitor the requested information in an approved corrective action plan. Note: No monitoring is required if a corrective action plan is not required.
2. The permittee shall keep records of the requested information in an approved corrective action plan. Note: No record keeping is required if a corrective action plan is not required.
3. The permittee shall submit a corrective action plan to the Air Pollution Control Program if required by the Director.

### Permit Condition PW002

10 CSR 10-6.060

#### Construction Permits Required

Air Pollution Control Program Construction Permit #082002-024

#### Equipment and Operation Parameters:

1. USA MANSCEN-FLW shall immediately render inoperable all boilers and/or heaters designed to burn #6 residual oil located in USA MANSCEN-FLW 's Building #645 (EP: FLW 002J, 002K, 002L & 002M).
2. USA MANSCEN-FLW shall immediately render inoperable all woodworking operations located in USA MANSCEN-FLW's Building 1448 (EP: FLW 016).
3. USA MANSCEN-FLW shall immediately render inoperable the hospital waste incinerator (EP: FLW 014) constructed under APCP Permit No. 0590-004.
4. The above removed emission sources may not be operated without first obtaining a New Source Review permit from the APCP.

**Permit Condition PW003**

10 CSR 10-6.170

**Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin**

**Emission Limitation:**

1. The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line or origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director; or
2. The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.
3. Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary.

**Monitoring/Record Keeping:**

The permittee shall conduct and record inspections of its facilities sufficient to determine compliance with this regulation, if required by the Director. If a violation of this regulation is discovered, the source shall undertake corrective action to eliminate the violation.

**Reporting:**

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).



### III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

EU4010 Chemical and Military Police Training Schools		
Emission Unit	Description	2002 EIQ Reference #
EU4010	Equipment/activities associated with this emission unit include the following at the chemical and military police training schools: a) Flame Field Expedient (FFE) - Gasoline; b) FFE - Thickening Agent; c) Explosive & Munitions - Smoke Grenades; d) Obscurant Training - Smoke (Fog Oil); e) Obscurant Training - Generator Fuel; and f) Obscurant Training - Smoke Pots.	a) FLW36 b) FLW37 c) FLW38 d) FLW40 e) FLW41 f) FLW42

#### Permit Condition EU4010-001

10 CSR 10-6.060

##### Construction Permits Required

Air Pollution Control Program Construction Permit #082002-024

Air Pollution Control Program Construction Permit #082002-024A

#### Equipment and Operation Parameters:

The new fog oil, flame field expedient or smoke pots training added under this permit shall not be conducted so as to constitute or contribute to a safety hazard to air traffic and/or vehicular traffic on highways accessible to the public during any of these training exercises.

#### Meteorological Monitoring

##### 1. Meteorological Monitoring Requirements and Record keeping

- a) USA MANSCEN-FLW shall continue to measure or calculate and record the following meteorological parameters, on an on-going basis, at the location(s) previously approved for fog oil training (Ballard, Bailey-McCann, Mush Paddle, and Musgrave) under APCP Project Number 3860-0004-015 and Project Number 1998-11-105 and also at the Forney airfield meteorological site.

Meteorological Parameter	Minimum Frequency for Measurement
Atmospheric Stability	3 minute averages
Wind Speed and Direction	3 minute averages
Ambient Air Temperature at 2 meters	3 minute averages
Ambient Air Temperature at 10 meters	3 minute averages
Atmospheric Pressure	3 minute averages
Relative Humidity	3 minute averages
Solar Radiation	3 minute averages
Precipitation	1 Hour
Additional Meteorological Monitoring Requirements for SODAR Site	
Mixing Height Data	15 minute averages

2. Re-evaluation of Meteorological Monitoring Sites

- a) If fog oil or Flame Field Expedient (FFE) training is to be conducted at an alternate training site (i.e. from the sites evaluated in this permit or a new fog oil/FFE training site reviewed in a subsequent evaluation), USA MANSCEN-FLW shall evaluate the need to conduct additional meteorological monitoring at or near the new proposed training site.
  1. USA MANSCEN-FLW shall complete the above additional meteorological monitoring evaluation and submit any proposed revisions and/or additions to the APCP for review and approval or provide a justification to the APCP as to why the current meteorological monitoring system does not need to be altered before beginning training at the new site.
  2. USA MANSCEN-FLW shall begin to implement any approved revision(s) to the meteorological monitoring system immediately upon APCP approval.

**Ambient Monitoring Network - Particulate Matter less than 10 microns in diameter**

1. Requirements for Ambient Monitoring System for PM<sub>10</sub>

- a) USA MANSCEN-FLW shall install, operate and maintain a system of ambient air monitoring stations for Particulate Matter less than 10 microns in diameter (PM<sub>10</sub>) along the installation's property boundaries and in the Cantonment Area at this installation. This ambient PM<sub>10</sub> monitoring network shall be installed, operated and maintained according to the following specifications.
  1. The initial PM<sub>10</sub> monitoring network approved under this permit shall consist of at least nine (9) Tapered Element Oscillating Microbalance (TEOM) monitors. This minimum number of monitors and/or the type of monitor required may be revised by a subsequent re-evaluation of the current PM<sub>10</sub> monitoring network and/or Quality Assurance Project Plan (QAPP) for PM<sub>10</sub>.
  2. USA MANSCEN-FLW shall locate all new PM<sub>10</sub> monitors required to be installed by this permit or by a future re-evaluation of the PM<sub>10</sub> monitoring network such that the monitors will measure ambient air. In the event that a monitor cannot initially be located at the installation's property boundary, then USA MANSCEN-FLW shall undertake the following actions:
    - a) Prior to beginning operation of the monitor(s), USA MANSCEN-FLW shall take steps to temporarily legally consider the site of the proposed monitor on USA MANSCEN-FLW property as ambient air for a length of time that will be sufficient to complete the activities specified by Special Condition Number 7B(2).
    - b) Within the 120 days of receiving APCP approval of the re-evaluation of the existing monitoring network required by Special Condition Numbers 10(B), 10(C), or 10 (D) of this permit or within 60 days of the installation of a new monitor on USA MANSCEN-FLW property, a plan shall be submitted by USA MANSCEN-FLW for approval of the Director detailing the steps and proposed time frames that will be necessary to either relocate the proposed monitor to the installation's property boundary or take other steps to legally and on a long term basis (i.e. by easement, a consent agreement, a long term lease, deeding the property to another entity, etc.) designate the land on which the proposed monitor is located as ambient air. USA MANSCEN-FLW shall begin to implement any such plan immediately upon its approval by the Director.
    - c) The above deadlines and submittals related to the PM<sub>10</sub> monitoring network may be extended upon approval by the Director of the APCP.
  3. USA MANSCEN-FLW shall re-evaluate the most recently approved Quality Assurance Project Plan (QAPP) for PM<sub>10</sub> that was originally submitted and approved for APCP Project Number 1998-11-105. USA MANSCEN-FLW shall submit proposed revisions to this QAPP for APCP review and approval and the proposed revisions must be received by the APCP before any new training added under APCP Construction Permit #082002-024 may be conducted. Until such time as the new QAPP for PM<sub>10</sub> is reviewed and approved by the APCP, USA MANSCEN-FLW shall continue to collect the above air quality monitoring data for all existing PM<sub>10</sub> monitors or new PM<sub>10</sub> monitors added under this permit according to the procedures included in the QAPP approved for APCP Project Number 1998-11-105.
  4. USA MANSCEN-FLW shall develop a standard operating procedures (SOP) plan to address, at a minimum, the repair and/or replacement of ambient monitors and the procedures for conducting new training activities added under this permit during periods of malfunction of one or more monitors in the ambient PM<sub>10</sub> monitoring network. The above SOP plan shall be submitted for APCP review and approval and must be

received by the APCP before any new training added under APCP Construction Permit #082002-024 may be conducted. USA MANSCEN-FLW shall operate under the above proposed SOP plan until receiving APCP comments about revising the plan and/or upon receiving final APCP approval of the plan.

- b) Monitoring and Record Keeping Requirements of Ambient PM<sub>10</sub> Concentrations
  1. USA MANSCEN-FLW shall record the results of the above air quality monitoring for PM<sub>10</sub>, at a minimum, on a one-half hour basis from each PM<sub>10</sub> monitor in the monitoring network.
  2. USA MANSCEN-FLW shall calculate, on an on-going basis, a consecutive rolling 24-hour average concentration for PM<sub>10</sub> using the above monitoring data for each PM<sub>10</sub> monitor in the monitoring network.
  3. USA MANSCEN-FLW shall calculate, on a monthly basis, a 12-month consecutive annual average concentration for PM<sub>10</sub> using the above monitoring data for each PM<sub>10</sub> monitor in the monitoring network.
- c) PM<sub>10</sub> Monitoring Record Retention and Reporting Requirements
  1. USA MANSCEN-FLW shall report the results of the above air quality monitoring for PM<sub>10</sub> to the APCP on a quarterly basis. USA MANSCEN-FLW shall retain the records of the pre-fog oil monitoring data indefinitely and shall retain any subsequent air quality monitoring records for PM<sub>10</sub> required by APCP Construction Permit #082002-024 for a minimum period of at least 10 years.
- d) Periodic Re-evaluation of PM<sub>10</sub> Ambient Air Monitoring Sites
  1. USA MANSCEN-FLW shall periodically re-evaluate the most recently approved Quality Assurance Project Plan (QAPP) for the PM<sub>10</sub> Ambient Air Monitoring network according to the schedule provided in subparts 1.d)2, 1.d)3 and 1.d)4 of this Special Condition. USA MANSCEN-FLW shall submit proposed revisions to this QAPP for APCP review and approval or alternatively provide a justification as to why the current QAPP does not need to be altered within 30 days of the issuance of this permit. Until such time as the new QAPP for PM<sub>10</sub> is reviewed, approved and implemented or a no change required justification is approved by the APCP, USA MANSCEN-FLW shall continue to collect the above air quality monitoring data for all existing PM<sub>10</sub> monitors or new PM<sub>10</sub> monitors added under this permit according to the procedures included the most recent QAPP approved by the APCP.
  2. Starting after a two year period from the issuance of this permit, USA MANSCEN-FLW shall re-evaluate the PM<sub>10</sub> monitoring network and the most recently approved QAPP for appropriateness based on the training activities that are being conducted at the time of the re-evaluation. This re-evaluation shall, at a minimum, consider if there is a need to change the number, type and/or the location(s) of the ambient monitors in current PM<sub>10</sub> monitoring network.
  3. At least once in every five year period after the initial two year period indicated in subpart 1.d)2 of this Special Condition, USA MANSCEN-FLW shall again re-evaluate the PM<sub>10</sub> monitoring network and the most recently approved QAPP for appropriateness based on the training activities that are being conducted at the time of the re-evaluation. This re-evaluation shall, at a minimum, consider if there is a need to change the number, type and/or the location(s) of the ambient monitors in current PM<sub>10</sub> monitoring network.
  4. If fog oil and/or Flame Field Expedient (FFE) training is to be conducted at an alternate training site (i.e. from the locations or sites evaluated in APCP Construction Permit #082002-024 or a new fog oil training site reviewed in a subsequently re-evaluation), USA MANSCEN-FLW shall re-evaluate the existing PM<sub>10</sub> monitoring network and the most recently approved QAPP for PM<sub>10</sub> for appropriateness based on conducting these training activities at a new fog oil/FFE training site(s) at this installation.
  5. For Subpart 1.d)2, 1.d)3 or 1.d)4 of this Special Condition, USA MANSCEN-FLW shall complete the above re-evaluation(s) and submit any proposed revisions of the current QAPP for PM<sub>10</sub> to the APCP for review and approval or provide a justification to the APCP as to why the current monitoring network and/or QAPP for PM<sub>10</sub> does not need to be altered within six months of beginning the above re-evaluation. The above deadlines and submittals for re-evaluation of the PM<sub>10</sub> monitoring network and QAPP may be extended upon approval by the Director of the APCP.
  6. USA MANSCEN-FLW shall begin to implement immediately upon APCP approval and shall complete within a reasonable time frame, any approved revision(s) to the existing PM<sub>10</sub> monitoring network and/or QAPP required by subpart 1.d)1 through subpart 1.d)5 of this Special Condition or in the case of an approved "no change required" justification, USA MANSCEN-FLW shall continue to comply with the most recently approved QAPP until the next re-evaluation of the PM<sub>10</sub> monitoring network and QAPP has been completed.

**Periodic Evaluation of the Ambient PM<sub>10</sub> Impacts - 1995 BRAC Training Activities**

1. Regular Evaluation, Record Keeping and Reporting Requirements - 1995 BRAC Training Activities
  - a) For the initial two year period after the issuance of APCP Construction Permit #082002-024, USA MANSCEN-FLW shall on a regular six day schedule review and analyze the ambient PM<sub>10</sub> monitoring data, the meteorological monitoring data and the records for the amounts, times and locations for any training conducted during that 24-hour period that exceeded 0.91 pounds of PM<sub>10</sub> emissions per hour (unless an alternative level is approved by the Director) in order to determine the amount of ambient PM<sub>10</sub> impacts and any other effects and/or trends resulting from conducting the 1995 BRAC training activities added under APCP Construction Permit #082002-024.
  - b) USA MANSCEN-FLW shall submit a report of the above findings and/or conclusions on the ambient PM<sub>10</sub> impacts from conducting the 1995 training activities added under APCP Construction Permit #082002-024 with supporting documentation to the APCP for review at least on a semi-annual basis.
  - c) USA MANSCEN-FLW may petition the APCP to alter and/or discontinue the above new training activities analysis and reporting requirement after the initial two year period from permit issuance as indicated above, but USA MANSCEN-FLW must continue to analyze and report these findings until receiving such approval, in writing, from the Director of the APCP.

**Evaluation and Reporting Requirements of Large Scale 1995 BRAC Training Events**

1. Evaluation and Reporting Requirements for Large Scale Training Events
  - a) For the initial two year period after the issuance of APCP Construction Permit #082002-024, after USA MANSCEN-FLW conducts any large scale 1995 BRAC training event of more than 100 gallons of fog oil used for field training, more than 25 gallons used for FFE training or more than seven smoke pots during a single 24-hour period at this installation, USA MANSCEN-FLW shall review and analyze the ambient PM<sub>10</sub> monitoring data, the meteorological monitoring data and the records for the amounts, times and locations for any training conducted during that 24-hour period that exceeded 0.91 pounds of PM<sub>10</sub> emissions per hour (unless an alternative level is approved by the Director) in order to determine the amount of ambient PM<sub>10</sub> impacts and any other effects or trends resulting from conducting large training events.
  - b) USA MANSCEN-FLW shall submit a report of the above findings and/or conclusions on the ambient PM<sub>10</sub> impacts of large training events with supporting documentation to the APCP for review at least on a semi-annual basis.
  - c) USA MANSCEN-FLW may petition the APCP to alter and/or discontinue the above large training event analysis and reporting requirement after the initial two year period from permit issuance as indicated above, but USA MANSCEN-FLW must continue to analyze and report these findings until receiving such approval, in writing, from the Director of the APCP.

**Additional Restrictions on New Training Activities when Monitoring Elevated PM<sub>10</sub> Ambient Concentrations**

1. Additional Restrictions on 1995 BRAC Training Activities when Monitoring Elevated PM<sub>10</sub> Ambient Concentrations.
  - a) When any monitor of the PM<sub>10</sub> monitoring network measures a reading in the range(s) specified below, USA MANSCEN-FLW shall, at a minimum, instigate the specified actions below depending on level of ambient PM<sub>10</sub> impacts in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) being recorded:
    1. Required actions for any monitored PM<sub>10</sub> concentrations greater than 50.0  $\mu\text{g}/\text{m}^3$  based on a 24-hour rolling average.
      - a) USA MANSCEN-FLW shall review for the period surrounding elevated monitored PM<sub>10</sub> concentrations, the ambient PM<sub>10</sub> and meteorological monitoring data, the records for the amounts, times and locations for any training activities conducted at the installation that exceeded 0.91 pounds of PM<sub>10</sub> emissions per hour (unless an alternative level is approved by the Director) and any other potential sources/reasons that USA MANSCEN-FLW believes may be causing or contributing toward the high ambient PM<sub>10</sub> concentrations, and
      - b) USA MANSCEN-FLW shall try to determine the reason(s) and/or cause(s) for the elevated ambient PM<sub>10</sub> impacts and shall send a report of their findings and/or conclusions to the APCP within 30 days of recording or calculating the elevated ambient PM<sub>10</sub> concentration(s). This 30 day reporting deadline may be extended upon approval of the Director of the APCP.

2. Required actions for monitored  $PM_{10}$  concentrations greater than 75.0 and no more than 85.0  $\mu g/m^3$  based on a 24-hour rolling average.
  - a) USA MANSCEN-FLW shall restrict all new driver training added under this permit to not occur on unpaved road surfaces within 1 kilometer of the installation's property boundary or within a 1 kilometer distance of the Cantonment Area at this installation,
  - b) USA MANSCEN-FLW shall not schedule any the following new training activities added under this permit: fog oil, FFE, smoke pots or smoke grenades that will have greater than a combined 20  $\mu g/m^3$  ambient  $PM_{10}$  impact at or beyond the installation's property boundaries or in the Cantonment Area at this installation as determined the method(s) specified in 1.a)6.
  - c) USA MANSCEN-FLW shall continue to schedule training activities added under this permit in the manner prescribed in subpart 1.a)2.b) until three consecutive one-half hour average 24-hour  $PM_{10}$  impact concentration readings are below the 75.0  $\mu g/m^3$  level for all  $PM_{10}$  monitoring stations, and
  - d) If it can be reasonably concluded from the review required under subpart 1.a)1. that the training activities at the installation are the reason(s) and/or cause(s) for the elevated ambient  $PM_{10}$  concentrations, then USA MANSCEN-FLW shall submit a proposed corrective action plan sufficient to address the reason(s) and/or cause(s) for the elevated  $PM_{10}$  concentrations to the APCP for review and approval.
3. Required actions for monitored  $PM_{10}$  value greater than 85.0 and no more than 95.0  $\mu g/m^3$  based on a 24-hour rolling average.
  - a) USA MANSCEN-FLW shall restrict all new driver training added under this permit to not occur on unpaved road surfaces within 1 kilometer of the installation's property boundary or within a 1 kilometer distance of the Cantonment Area at this installation,
  - b) USA MANSCEN-FLW shall not schedule any the following new training activities added under this permit: fog oil, FFE, smoke pots or smoke grenades that will have greater than a combined 10  $\mu g/m^3$  ambient  $PM_{10}$  impact at or beyond the installation's property boundaries or in the Cantonment Area at this installation as determined the method(s) specified in 1.a)6,
  - c) USA MANSCEN-FLW shall continue to schedule new training activities added under this permit in the manner prescribed in subpart 1.a)3. until three consecutive one-half hour average 24-hour  $PM_{10}$  impact concentration readings are below the 85.0  $\mu g/m^3$  level for all  $PM_{10}$  monitoring stations, and
  - d) If it can be reasonably concluded from the review required under subpart 1.a)1. that the training activities at the installation are the reason(s) and/or cause(s) for the elevated ambient  $PM_{10}$  concentrations, then USA MANSCEN-FLW shall submit a proposed corrective action plan sufficient to address the reason(s) and/or cause(s) for the elevated  $PM_{10}$  concentrations to the APCP for review and approval.
4. Required actions for monitored  $PM_{10}$  value between 95.0 and no more than 105.0  $\mu g/m^3$  based on a 24-hour rolling average.
  - a) USA MANSCEN-FLW shall restrict all new driver training added under this permit to not occur on unpaved road surfaces within 1 kilometer of the installation's property boundary or within a 1 kilometer distance of the Cantonment Area at this installation,
  - b) USA MANSCEN-FLW shall not schedule any of the following new training activities added under this permit: fog oil, FFE, smoke pots or smoke grenades that will have greater than a combined 5  $\mu g/m^3$  ambient  $PM_{10}$  impact at or beyond the installation's property boundaries or in the Cantonment Area at this installation as determined the method(s) specified 1.a)6,
  - c) USA MANSCEN-FLW shall notify and provide preliminary information to the APCP within seven days of monitoring an ambient  $PM_{10}$  reading in excess of 95.0  $\mu g/m^3$  at one or more of the stations in the  $PM_{10}$  monitoring network,
  - d) USA MANSCEN-FLW shall continue to schedule new training activities added under this permit in the manner prescribed in subpart 1.a)4. until three consecutive one-half hour average 24-hour  $PM_{10}$  impact concentration readings are below the 95.0  $\mu g/m^3$  level for all  $PM_{10}$  monitoring stations, and
  - e) If it can be reasonably concluded from the review required under subpart 1.a)1. that the training activities at the installation are the reason(s) and/or cause(s) for the elevated ambient  $PM_{10}$  concentrations, then USA MANSCEN-FLW shall submit a proposed corrective action plan sufficient to address the reason(s) and/or cause(s) for the elevated  $PM_{10}$  concentrations to the APCP for review and approval.
5. Required actions for monitored  $PM_{10}$  concentrations greater than 105.0  $\mu g/m^3$  based on a 24-hour rolling average.

- a) USA MANSCEN-FLW shall restrict all new driver training added under this permit to not occur on unpaved road surfaces within 1 kilometer of the installation's property boundary or within a one kilometer distance of the the Cantonment Area at this installation,
  - b) USA MANSCEN-FLW shall not schedule any new training activities added under this permit that will have a significant ambient  $PM_{10}$  impact ( i.e. any new training added under this permit scheduled would need to have virtually zero ambient  $PM_{10}$  impact) at or beyond the installation's property boundaries or in the Cantonment Area at this installation as determined the method(s) specified in 1.a)6.
  - c) USA MANSCEN-FLW shall notify and provide preliminary information to the APCP within seven days of monitoring an ambient  $PM_{10}$  reading in excess of  $105.0 \mu\text{g}/\text{m}^3$  at one or more of the stations in the  $PM_{10}$  monitoring network,
  - d) USA MANSCEN-FLW shall continue to schedule new training activities added under APCP Construction #082002-024 in the manner prescribed in subpart 1.a)5. of this Special Condition until three consecutive one-half hour average 24-hour  $PM_{10}$  impact concentration readings are below the  $105.0 \mu\text{g}/\text{m}^3$  level for all  $PM_{10}$  monitoring stations, and
  - e) If it can be reasonably concluded from the review required under subpart 1.a)1. of this Special Condition that the training activities at the installation are the reason(s) and/or cause(s) for the elevated ambient  $PM_{10}$  concentrations, then USA MANSCEN-FLW shall submit a proposed corrective action plan sufficient to address the reason(s) and/or cause(s) for the elevated  $PM_{10}$  concentrations to the APCP for review and approval.
6. Requirements for an Automated Lookup table System.
- a) For the purposes of initially complying with the additional restrictions of 1.a)2. Through 1.a)5. for conducting new training activities added under APCP Construction #082002-024 at elevated ambient  $PM_{10}$  concentrations, USA MANSCEN-FLW may use the current Automated Look-up Table system that was approved for use by the APCP on November 21, 2001. However, when using the existing system, USA MANSCEN-FLW shall be restricted to using only the locations and amounts of training activities that were approved under the current Automated Look-up Table system.
  - b) If USA MANSCEN-FLW desires to add additional training locations and/or amounts of training that are currently not covered by the existing Automated Look-up Table system, then the appropriate modeling, other materials, and/or proposed revisions shall be submitted to the APCP Technical Support Section for review. Any new or alternative training scenario to be added, as indicated above, shall not be used for demonstrating compliance with the additional operational restrictions under conditions of high ambient  $PM_{10}$  concentrations of 1.a)2. Through 1.a)5. until receiving approval, in writing, from the Director of the APCP.
  - c) In addition, USA MANSCEN-FLW may also substitute an alternate method or mechanism to demonstrate compliance with the operational restrictions under conditions of high ambient  $PM_{10}$  concentrations of 1.a)2. Through 1.a)5. instead of the use of the existing or revised Automated Look-Up Table System. USA MANSCEN-FLW may use such alternate method or mechanism for demonstrate compliance with the above operational restrictions upon review by the APCP and receiving approval, in writing, from the Director of the APCP.
7. Required actions for any monitored  $PM_{10}$  concentrations greater than  $30.0 \mu\text{g}/\text{m}^3$  based on a rolling annual average
- a) USA MANSCEN-FLW shall review for the period of elevated annual monitored  $PM_{10}$  concentrations, the ambient  $PM_{10}$  and meteorological monitoring data, the records for the amounts and locations for any training activities conducted at the installation that exceeded 0.91 pounds of  $PM_{10}$  emissions per hour (unless an alternative level is approved by the Director) and any other potential sources/reasons that USA MANSCEN-FLW believes may be causing or contributing toward the high annual ambient  $PM_{10}$  concentration(s), and
  - b) USA MANSCEN-FLW shall try to determine the reason(s) and/or cause(s) for the elevated annual ambient  $PM_{10}$  impacts and shall send a report of their findings and/or conclusions to the APCP within 30 days of recording or calculating an elevated annual ambient  $PM_{10}$  concentration. This 30 day reporting deadline may be extended upon approval of the Director of the APCP.
8. Requesting Revisions on Operational Restrictions on New Training Activities Conducted Under Conditions of Elevated Ambient  $PM_{10}$  Concentrations.

- a) After an initial two year period from permit issuance, USA MANSCEN-FLW may petition the APCP to alter and/or discontinue the above restriction on the 1 kilometer buffer on new driver training on unpaved roads added under this permit and/or other operational restrictions specified in 1.a)2. Through 1.a)5., if it can be demonstrated that minimal air quality impacts can be expected from these training activities. USA MANSCEN-FLW must continue to comply with the operational restrictions specified in 1.a) until receiving such approval, in writing, from the Director of the APCP

**Standard Operating Procedures for Conducting New Training Activities when Monitoring Elevated PM<sub>10</sub> Ambient Concentrations**

1. Requirements for Submission of a Standard Operating Procedures.
  - a) USA MANSCEN-FLW shall develop and submit for APCP approval, a preliminary standard operating procedures (SOP) plan for determining the manner in which the above new training added under APCP Construction Permit #082002-024 can be conducted under conditions of elevated ambient PM<sub>10</sub> concentrations and remain in compliance with the operational restriction(s) of Monitoring Elevated PM<sub>10</sub> Ambient Concentrations.
  - b) The above preliminary SOP for conducting new training added under this permit under conditions of elevated ambient PM<sub>10</sub> concentrations shall be submitted to the APCP within 30 days of the issuance of APCP Construction Permit #082002-024. The new training added under APCP Construction Permit #082002-024 shall not be conducted under conditions of elevated ambient PM<sub>10</sub> concentrations until the above preliminary SOP plan has been submitted.
  - c) If USA MANSCEN-FLW is required to submit a proposed corrective action plan as specified in Monitoring Elevated PM<sub>10</sub> Ambient Concentrations then the SOP for conducting new training added under APCP Construction Permit #082002-024 under conditions of elevated ambient PM<sub>10</sub> concentrations shall be revised to include the new proposals of the corrective action plan upon receiving APCP approval.

**Ambient Air Monitoring – Ozone**

1. Requirements for Ozone Monitoring.
  - a) Upon issuance of this permit, USA MANSCEN-FLW shall continue to collect continuous air quality monitoring data for ozone in the manner, and at the location(s), specified in the most recent APCP approved Quality Assurance Project Plan (QAPP) for ozone for this installation.
  - b) Ozone monitoring data shall be collected through the April 1 through October 31 time period and USA MANSCEN-FLW shall continue to collect the ozone monitoring data for a minimum of five years after the issuance of APCP Construction Permit #082002-024.
  - c) USA MANSCEN-FLW may petition the APCP to alter and/or discontinue this air quality monitoring for ozone after the initial five year period indicated above, but must continue to conduct the monitoring for ozone until receiving such approval, in writing, from the Director of the APCP.
2. Ozone Monitoring Record Keeping and Reporting Requirements.
  - a) USA MANSCEN-FLW shall report the results of the above air quality monitoring for ozone to the APCP on a quarterly basis. USA MANSCEN-FLW shall retain the records of the pre-fog oil training ozone monitoring data indefinitely and shall retain any subsequent air quality monitoring records required by APCP Construction Permit #082002-024 or required previously for APCP Project Number 3860-0004-015 or Project Number 1998-11-105 for a minimum period of at least 30 years.
3. Periodic Re-evaluation of Ozone Monitoring Sites.
  - a) After a two year period from the issuance of APCP Construction Permit #082002-024, USA MANSCEN-FLW shall re-evaluate the most recently approved QAPP for ozone for appropriateness based on the training activities that are being conducted at the time of the re-evaluation. Thereafter, at least once in every five year period that ozone monitoring is still required, USA MANSCEN-FLW shall again re-evaluate the most recently approved QAPP for ozone for appropriateness based on the training activities that are being conducted at the time of the re-evaluation.
  - b) USA MANSCEN-FLW shall complete the above re-evaluation(s) and submit any proposed revisions of the current QAPP for ozone to the APCP for review and approval or provide a justification to the APCP as to why the current QAPP for ozone does not need to be altered within six months of beginning the above re-evaluation. The



above deadline for re-evaluation of the ozone QAPP may be extended upon approval by the Director of the APCP.

- c) USA MANSCEN-FLW shall begin to implement any approved revision(s) to the current QAPP for ozone immediately upon APCP approval or shall continue to comply with the most recently approved QAPP until the next re-evaluation of the QAPP for ozone has been completed should the APCP approve the "no change required" justification.

### **Soil and Vegetation Requirements**

1. Frequency of Sampling
  - a) Upon issuance of APCP Construction Permit #082002-024, USA MANSCEN-FLW shall collect and analyze soil and vegetation samples at each location specified in the most recently approved Soil and Vegetation Sampling Plan (SVSP), in accordance with the schedule listed below:
    1. For the five year period after issuance of APCP Construction Permit #082002-024, USA MANSCEN-FLW shall collect and analyze the above SVSP samples at least on a semi-annual basis (in June and December unless otherwise approved by the APCP or specified in the SVSP);
    2. Between the five and ten year issuance of APCP Construction Permit #082002-024, USA MANSCEN-FLW shall collect and analyze the above SVSP samples at least on an annual basis (during the growing season unless otherwise approved by the APCP);
    3. After the above ten year period, USA MANSCEN-FLW shall collect and analyze the above SVSP samples at least once in every five year period (during a growing season unless otherwise approved by the APCP); and
    4. USA MANSCEN-FLW may petition the APCP to alter and/or discontinue this SVSP sampling after the initial five year sampling period indicated above, but must continue to conduct this SVSP sampling in accordance with the above schedule until receiving such approval, in writing, from the Director of the APCP.
2. Record Retention Requirements.
  - a) USA MANSCEN-FLW shall report the results of the above SVSP sampling and analysis to the APCP within 90 days of the date the samples are collected. USA MANSCEN-FLW shall retain any SVSP sampling records conducted prior to the issuance of this permit indefinitely and shall retain any subsequent SVSP sampling and analysis for a minimum period of at least 30 years.
3. Periodic Re-evaluation of Soil and Vegetation Sampling Plan.
  - a) At least once in every five year period or if fog oil training is to be conducted at an alternate training site [i.e. from the sites originally proposed in APCP Project Number 3860-0004-015 and/or Number 1998-11-105 (Ballard, Bailey-McCann, Mush Paddle, or Musgrave) or a new fog oil training site reviewed in a subsequently re-evaluation], USA MANSCEN-FLW shall re-evaluate the most recently approved Soil and Vegetation Sampling Plan (SVSP) for appropriateness based on the training activities that are being conducted at the time of the re-evaluation (or will be conducted for new fog oil training sites) at this installation.
    1. USA MANSCEN-FLW shall complete the above re-evaluation and submit any proposed revisions of the current SVSP to the APCP for review and approval or provide a justification to the APCP as to why the current SVSP does not need to be altered within 6 months of beginning the above re-evaluation. The above SVSP submittal deadline may be extended upon approval by the Director of the APCP.
    2. USA MANSCEN-FLW shall implement any approved revision(s) to the current SVSP immediately upon APCP approval or shall continue to comply with the most recently approved SVSP until the next re-evaluation of the SVSP has been completed should the APCP approve the "no change required" justification.

### **Reporting:**

1. USA MANSCEN-FLW shall submit a quarterly summary report to the APCP providing detailed information on the daily activities for the following 1995 Base Realignment and Closure ((BRAC) sources/operations added under this APCP Construction Permit #082002-024:
  - Flame Field Expedient (FFE) - Gasoline, (FLW 36);
  - FFE - Thickening Agent, (FLW 37);
  - Explosive & Munitions - Smoke Grenades, (FLW 38);
  - Obscurant Training - Smoke (Fog Oil), (FLW 40);
  - Obscurant Training - Generator Fuel, (FLW 41); and



Obscurant Training - Smoke Pots, (FLW 42).

- a) USA MANSCEN-FLW shall submit the quarterly report for at least the first two years after the issuance of APCP Construction Permit #082000-024. The APCP may also require USA MANSCEN-FLW to submit additional similar daily summary report(s) on an alternate or more frequent schedule or for other training activities added under this permit. If the APCP requests additional daily summary report(s), as mentioned above, the APCP shall notify USA MANSCEN-FLW of the request in writing and indicate the reason(s) for the submittal of the additional report(s).
- b) After the initial two year period after issuance of APCP Construction Permit #082000-024, USA MANSCEN-FLW shall submit the above summary report on a semi-annual basis instead of a quarterly basis for an additional three years. The APCP may still require USA MANSCEN-FLW to submit additional similar daily summary report(s) on an alternate or more frequent schedule or for other training activities added under this permit. If the APCP requests additional daily summary report(s), as mentioned above, the APCP shall notify USA MANSCEN-FLW of the request in writing and indicate the reason(s) for the submittal of the additional report(s).
- c) After this initial five year period after issuance of APCP Construction Permit #082000-024, USA MANSCEN-FLW may submit a request to the APCP to alter the frequency or delete the above semi-annual reporting requirement. The above semi-annual reporting requirement shall be altered or eliminated upon receiving final approval, in writing, from the Director of the APCP for the revision.

#### EU4020

#### Biological Integrated Detection System/Nuclear & Chemical Reconnaissance Simulants

Emission Unit	Description	2002 EIQ Reference #
EU4020	Mobile self-contained detection systems for biological agents and nuclear and chemical agents.	EP39

#### Permit Condition EU4020-001

10 CSR 10-6.060

#### Construction Permits Required

Air Pollution Control Program Construction Permit #082002-024

#### Emission Limitation:

1. USA MANSCEN-FLW shall limit the usage of the following new BIDS/FOX Simulants training added under APCP Construction Permit #022002-024 to no more than 100.0 pounds for BG [*Bacillus Subtilis* (previously designated as *Bacillus Globigii*)] and to no more than 100.0 pounds of Kaolin during any consecutive 12-month period.
2. USA MANSCEN-FLW shall limit the usage of the following new BIDS/FOX Simulants added under APCP Construction Permit #022002-024 to no more than 10.0 pounds for BG and to no more than 12.1 pounds of Kaolin during any 24-hour period.

#### Monitoring/Record Keeping:

1. USA MANSCEN-FLW shall maintain an accurate record of the daily, monthly, and 12-consecutive month usage for the above BIS/FOX Simulants.
2. USA MANSCEN-FLW shall use Attachment BFS-1; BIDS-FOX Simulants – Daily Usage Tracking Record and Attachment BFS-2; BIDS-FOX Simulants – Monthly Usage Tracking Record or other equivalent form(s) for this purpose.

#### Reporting:

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined that the emission unit(s) exceeded the emission limitation(s) listed above.

2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

EU4030 Flame Field Expedient Training		
Emission Unit	Description	2002 EIQ Reference #
EU4030	Gasoline or JP-8 is mixed with a thickening agent in 55 gallon drums or other sized containers. The containers are strategically placed with cutting, ignition and projecting explosives placed on or near the containers. The explosives are detonated in sequence by the student soldier from a remote location resulting in the ignited fuel being directed towards its intended target. This emission unit includes: a) FFE – Gasoline b) FFE – Thickening Agent	a) EP36 b) EP37

**Permit Condition EU4030-001**

10 CSR 10-6.060

**Construction Permits Required**

Air Pollution Control Program Construction Permit #082002-024

**Emission Limitation:**

1. USA MANSCEN-FLW shall not discharge into the atmosphere from the new FFE training operations added under APCP Construction Permit #082002-024, in excess of 8.958 tons of PM<sub>10</sub> in any consecutive 12-month period.
2. USA MANSCEN-FLW shall also not discharge into the atmosphere from the new FFE training operations added under this APCP Construction Permit #082002-024, PM<sub>10</sub> emissions in excess of 1,311.72 pounds in any 24-hour period.

**Equipment and Operation Parameters:**

USA MANSCEN-FLW shall not conduct any FFE training associated with the new training added under APCP Construction Permit #082002-024 within a 1 kilometer distance of any property boundary at this installation or within a 1 kilometer distance of the Cantonment Area at this installation.

**Monitoring/Record Keeping:**

1. USA MANSCEN-FLW shall maintain an accurate record of the daily, monthly, and 12-consecutive months PM<sub>10</sub> emissions into the atmosphere from the new FFE training operations added under APCP Construction Permit #082002-024.
2. USA MANSCEN-FLW shall also maintain a record of time and location on the installation where this new FFE training is conducted.
3. USA MANSCEN-FLW shall use Attachment EFE1; Flame Field Expedient - Daily PM<sub>10</sub> Emissions Tracking Record and Attachment EFE2; Flame Field Expedient – Monthly PM<sub>10</sub> Emissions Tracking Record or other equivalent form(s) for this purpose.

**Reporting:**

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined that the emission unit(s) exceeded the emission limitation(s) listed above.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

EU4040 Explosive and Munitions Training		
Emission Unit	Description	2002 EIQ Reference #
EU4040	Smoke and tear gas grenades used mainly by the Military Police School and explosives/munitions to be used by other new Base Realignment and Closure (BRAC) related activities at the base. A variety of types and colors of smoke grenades are to be used by the Military Police Training School.	EP38

**Permit Condition EU4040-001**

10 CSR 10-6.060

**Construction Permits Required**

Air Pollution Control Program Construction Permit #082002-024

**Emission Limitation:**

1. USA MANSCEN-FLW shall limit the usage of smoke grenades associated with the new training added under APCP Construction Permit #082002-024 to no more than 13,000 smoke grenades used during any consecutive 12-month period.
2. USA MANSCEN-FLW shall limit the usage of smoke grenades associated with the new training added under APCP Construction Permit #082002-024 to no more than 480 smoke grenades used during any 24-hour period.

**Equipment and Operation Parameters:**

USA MANSCEN-FLW shall not use any smoke grenades associated with the new training added under APCP Construction Permit #082002-024 within a one kilometer distance of any property boundary at this installation or within a one kilometer distance of the Cantonment Area at this installation.

**Monitoring/Record Keeping:**

1. USA MANSCEN-FLW shall maintain an accurate record of the daily, monthly, and 12-consecutive months smoke grenade usage associated with the new training added under APCP Construction Permit #082002-024.
2. USA MANSCEN-FLW shall also maintain a record of time and location on the installation where this new smoke grenade training is conducted.
3. USA MANSCEN-FLW shall use Attachment SG-1; Daily Smoke Grenade Usage Tracking Record, and Attachment SG-2; Monthly Smoke Grenade Usage Tracking Record or other equivalent form(s) for this purpose.

**Reporting:**

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined that the emission unit(s) exceeded the emission limitation(s) listed above.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

EU4050 Obscurant Training – Smoke (Fog Oil)		
Emission Unit	Description	2002 EIQ Reference #
EU4050	To generate smoke, fog oil is vaporized, re-condensed and dispersed into the air using pulse jet (reciprocating) or turbine generators. Both types of generators combust gasoline and/or JP-8 fuel. Each pulse jet generator processes up to 40 gallons of fog oil using about 2.75 gallons of fuel. Each turbine generator processes up to 80 gallons of fog oil per hour using about 15 gallons of fuel. This emission unit includes: a) Obscurant Training – Smoke (Fog Oil) b) Obscurant Training – Generator Fuel	a) EP40 b) EP41

**Permit Condition EU4050-001**

10 CSR 10-6.060

**Construction Permits Required**

Air Pollution Control Program Construction Permit #082002-024

**Emission Limitation:**

1. USA MANSCEN-FLW shall limit the usage of the approved fog oil used for obscurant training at this installation [currently Smoke Generating Fuel –2 (SGF-2) at the issuance of APCP Construction Permit #082002-024], to no more than 65,000 gallons of fog oil material during any consecutive 12-month period. Only fog oil usage at the installation for obscurant training shall be included toward this consecutive 12-month usage restriction. Specifically, any fog oil material used in the repair, maintenance and/or testing of fog oil equipment or in other fog oil consuming activities (i.e. operation of a theater fog oil generator, brigade activation ceremonies, etc.) shall not be included toward the above consecutive 12-month usage restriction.
2. USA MANSCEN-FLW shall limit the usage of the approved fog oil for obscurant training at this installation to no more than 1,200 gallons during any “24-hour period” (midnight to midnight). Only fog oil usage at the installation for obscurant training shall be included toward this consecutive 12-month usage restriction. Specifically, any fog oil material used in the repair, maintenance and/or testing of fog oil equipment or in other fog oil consuming activities (i.e. operation of a theater fog oil generator, brigade activation ceremonies, etc.) shall not be included toward the above 24-hour usage restriction.
3. USA MANSCEN-FLW shall limit the usage of the approved fog oil used for non-obscurant training activities at this installation to no more than 876 pounds of fog oil material used during any consecutive 12-month period. Only fog oil usage at the installation for non-obscurant training shall be included toward this consecutive 12-month usage restriction. Specifically, only fog oil used in the repair, maintenance and/or testing of fog oil equipment or in other fog oil consuming activities (i.e. operation of a theater fog oil generator, brigade activation ceremonies, etc.) shall be included toward the above consecutive 12-month usage restriction.

**Equipment and Operation Parameters:**

1. USA MANSCEN-FLW shall not conduct any fog oil/obscurant training activities associated with the new obscurant training added under APCP Construction Permit #082002-024 within a one kilometer distance of any property boundary at this installation or within a one kilometer distance of the Cantonment Area at this installation. This one kilometer locational restriction does not apply to obscurant material used in the repair, maintenance and/or testing of fog oil equipment or in other fog oil consuming activities (i.e. operation of a theater fog oil generator, brigade activation ceremonies, etc.).
2. Restrictions on Types of Fog Oil Material Used at this Installation.
  - a) USA MANSCEN-FLW shall only use an approved fog oil material (currently designated as SGF-2 at the time of issuance of this permit) to generate smoke during the obscurant training activities conducted at this installation. The fog oil material, as used at this installation, shall comply with the most recent approved Army specifications for smoke generating material and shall comply with the following properties and characteristics:

1. The above fog oil material shall be severely hydrotreated (if necessary) to remove polycyclic aromatic hydrocarbons (PAHs) and their nitrogen and oxygen analogues unless USA MANSCEN-FLW complies with one of the following conditions:
  - a) USA MANSCEN-FLW uses an alternate method(s) of treating the fog oil material (besides severely hydrotreating) to insure that the PAHs are removed from the fog oil material, provided that these method(s) are functionally equivalent or better in removing PAHs from the fog oil material than the severely hydrotreated method mentioned above. Any proposed alternative method of treating the fog oil material shall be submitted and receive approval from the Director of the APCP prior to its use.
  - b) The above severely hydrotreating requirement may be waived, upon approval from the Director of the APCP, for any fog oil materials that can be shown not to contain PAHs;
2. The above approved fog oil material shall contain no carcinogenic or potentially carcinogenic constituents as defined under the Hazard Communication Standard (HCS) 29 CFR 1910.1200 as demonstrated by the carcinogenic testing required by the appropriate Military Performance Specification for the fog oil material being used. (Note: Alternate methods of testing, from those mentioned above, would require APCP approval before being acceptable to demonstrate compliance with this requirement); and
3. The above fog oil shall contain no more than 0.5% by weight of any single hazardous air pollutant (HAP) as defined by 10 CSR 10-6.020(2)(C), "Table 3 – Hazardous Air Pollutants." The combination of all HAPs in the fog oil shall also comprise no more than 1% of the fog oil by weight.
- b) USA MANSCEN-FLW is prohibited from using any fog oil material designated as PY8035000 on the Registry of Toxic Effects of Chemical Substances (RTECS) of the National Institute for Occupational Safety and Health (NIOSH) to create smoke for any obscurant training at this installation.
- c) Besides the specific approved fog oil material evaluated in this review, USA MANSCEN-FLW may use alternative material(s) approved for use by the Headquarters Department of the Army to generate obscurant at this installation provided the following conditions are met:
  1. USA MANSCEN-FLW will remain in compliance with the annual and daily limitations on fog oil usage established in this permit [or their functional equivalent(s)] on an on-going basis;
  2. The usage of the new obscurant material would not result in an increase in the potential emissions of any air pollutant over those calculated for the fog oil material approved in this permit. This potential emissions increase exclusion applies to both the emissions from the obscurant material itself and to any other directly related emission source(s) (i.e. fuel usage for the obscurant generators);
  3. The new proposed obscurant material(s) complies with product specification restriction(s) listed in subpart (A) of this Special Condition;
  4. USA MANSCEN-FLW submits a request for APCP review and approval for the usage of the new proposed fog oil material. This request should include supporting documentation that is sufficient to demonstrate that the above restrictions would be met; and
  5. USA MANSCEN-FLW does not conduct any obscurant training using this new proposed material(s) without prior approval from the Director of the APCP in writing.
- d) USA MANSCEN-FLW, and/or their supplier(s) of fog oil, shall collect and analyze samples of the obscurant material(s) to be used at this installation, to verify that the obscurant will meet the Military Specifications for the specific type of obscurant being used and that the fog oil will also comply with the product restrictions established in subpart 2.a).
- e) If deemed necessary by the Director of the APCP, USA MANSCEN-FLW may be required to collect a sample of the above fog oil material(s), as used, and submit this sample to an independent laboratory for testing to confirm the fog oil material(s) being used is in compliance with the appropriate product characteristics and/or Military Specifications required above.
- f) USA MANSCEN-FLW shall maintain records of the following fog oil information:
  1. Military Specifications on each type of fog oil material currently being utilized at this installation and the Military Specifications for previously used fog oil materials (e.g. specifications on any fog oil used after issuance of APCP Construction Permit #082002-024);
  2. Material Safety Data sheets for the fog oil material(s); and
  3. Any testing conducted to demonstrate compliance with subpart 2.d) or 2.e).
3. Restrictions of Use of Additive(s) to the Fog Oil Used at this Installation.

- a) USA MANSCEN-FLW shall not add any additives to the fog oil material used at this installation [i.e. such as any re-refined oils or any other substance(s) sometimes introduced into fog oil in order to change and/or enhance the obscurant characteristics and/or effectiveness like kerosene to reduce viscosity in cold temperatures, graphite or brass to change or enhance the obscurant's effectiveness, etc.] prior to undergoing a review (i.e. submitting permit applications) and receiving approval from the Missouri Department of Natural Resources.
4. Restrictions of Use of Fog Oil Generators Used at this Installation.
  - a) USA MANSCEN-FLW shall be restricted to use only the specific types of fog oil generating equipment approved under APCP Construction Permit #082002-024 (i.e. turbines and pulse jet generators) unless receiving further approval from the APCP to use an alternative type or newer version of smoke generating equipment.
  - b) If the usage of alternative type or newer version of fog oil generating equipment would not result in an increase in the potential air emissions from the equipment over the levels calculated for APCP Construction Permit #082002-024, then the new equipment may be substituted for the fog oil generating equipment approved under APCP Construction Permit #082002-024 (i.e. turbines and pulse jet generators) upon approval of the APCP. (Note: This increase in potential emissions comparison applies to the emissions from both the fog oil generators and from any potential increase in the amount of fog oil material used.)
  - c) If the usage of alternative type or newer version of fog oil generating equipment would result in an increase in the potential air emissions from the equipment over the levels as calculated for APCP Construction Permit #082002-024, then USA MANSCEN-FLW will need to submit either a new permit application or an applicability determination request for the change and receive approval from the APCP prior to usage of the alternative type or newer version of fog oil generating equipment. (Note: This increase in potential emissions comparison applies to the emissions from both the fog oil generators and from any potential increase in the amount of fog oil material used.)
5. Requirements for Approval for Use of an Alternate Non-Petroleum Based Fog Oil.
  - a) If the Headquarters Department of the Army should approve the usage of a non-petroleum based material for fog oil training and a subsequent environmental impact assessment is completed for the installation, USA MANSCEN-FLW shall prepare and submit a report to the APCP evaluating the suitability and effects on air emissions if the non-petroleum based material would be substituted for the existing obscurant material being used.
6. Requirement for a Network of Observers During Field Obscurant Training Exercises.
  - a) At all times during a field obscurant training exercise, a network of observers shall be stationed at locations appropriate to observe the behavior of generated smoke and to make a determination as to whether the generated smoke could cross a property boundary of USA MANSCEN-FLW or enter the Cantonment Area at this installation. These observers shall maintain continuous electronic and/or visual communication with the operators of the smoke generating equipment. If at any time during a field obscurant training exercise, the condition or the behavior of the smoke should cause the observers to reasonably anticipate that visible smoke could cross any of the boundaries indicated above, then the observer(s) shall immediately notify the operators of the smoke generating equipment of this anticipated deviation. The operators of the smoke generating equipment shall immediately shut down the smoke generating equipment upon such notification until such time that the likelihood that the smoke could cross the boundary has ceased.

**Record Keeping:**

1. USA MANSCEN-FLW shall maintain an accurate record of the daily, monthly, and 12-consecutive months of fog oil usage.
2. USA MANSCEN-FLW shall also maintain an accurate record of the times and locations where the above fog oil training is being conducted.
3. USA MANSCEN-FLW shall use Attachment EG-1, *Fog Oil Training – Daily Usage Tracking Record* and Attachment EG-2, *Fog Oil Training – Monthly Usage Tracking Record* or other equivalent form(s) for this purpose.

**Reporting:**

1. If the U.S. Army should approve the usage of a non-petroleum based material for fog oil training, USAEC-FLW shall prepare and submit a report to the APCP evaluating the suitability and effects on air emissions if the non-petroleum based material would be substituted for the existing fog oil. The APCP may require USAEC-FLW to switch to such a non-petroleum based material for fog oil training depending on the results of the above evaluation.

2. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined that the emission unit(s) exceeded the emission limitation(s) listed above.
3. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

**Permit Condition EU4050-002**

10 CSR 10-6.260<sup>1</sup>

**Restriction of Emission of Sulfur Compounds**

**Emission Limitation:**

1. Emissions from any existing or new source operation shall not contain more than 500 parts per million by volume (500 ppmv) of sulfur dioxide.
2. Stack gasses shall not contain more than 35 mg per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three-hour time period.
3. No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO <sub>2</sub> )	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m <sup>3</sup> ))	Annual arithmetic mean
	0.14 ppm (365 µg/m <sup>3</sup> )	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m <sup>3</sup> )	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H <sub>2</sub> S)	0.05 ppm (70 µg/m <sup>3</sup> )	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m <sup>3</sup> )	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	10 µg/m <sup>3</sup>	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m <sup>3</sup>	1-hour average not to be exceeded more than once in any 2 consecutive days

**Equipment and Operation Parameters:**

The emission unit shall be limited to burning fuel oil no. 2.

**Monitoring/Record Keeping:**

1. The permittee shall maintain an accurate record of the sulfur content for fuel oil no. 2. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and sulfur content will be acceptable.
2. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
3. All records shall be maintained for five years.

**Reporting:**

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

<sup>1</sup> 10 CSR 10-6.260(4) is state-only.

EU4060 Obscurant Training – Smoke Pots		
Emission Unit	Description	2002 EIQ Reference #
EU4060	Two types of smoke pots – classroom and obscurant (field). Classroom used to train students in proper usage. Obscurant mainly used to fill in thinly concealed areas during fog oil training exercises in the field.	EP42

**Permit Condition EU4060-001**

10 CSR 10-6.060

**Construction Permits Required**

Air Pollution Control Program Construction Permit #082002-024

**Emission Limitation:**

1. USA MANSCEN-FLW shall limit the usage of new smoke pots training added under APCP Construction Permit #082002-024 to no more than 840 smoke pots during any consecutive 12-month period.
2. USA MANSCEN-FLW shall limit the usage of new smoke pots training added under APCP Construction Permit #082002-024 to no more than 49 smoke pots during any 24-hour period.

**Equipment and Operation Parameters:**

USA MANSCEN-FLW shall not use any new smoke pots training added under APCP Construction Permit #082002-024 within a one kilometer distance of any property boundary at this installation or within a one kilometer distance of the Cantonment Area at this installation.

**Monitoring/Record Keeping:**

1. USA MANSCEN-FLW shall maintain an accurate record of the above daily, monthly, and 12-consecutive months usage of new smoke pots added under this permit.
2. USA MANSCEN-FLW shall also maintain a record of time and location on the installation where this training is conducted.
3. USA MANSCEN-FLW shall use Attachment SP-1; *Smoke Pots – Daily Usage Tracking Record* and Attachment SP-2; *Smoke Pots – Monthly Usage Tracking Record* or other equivalent form(s) for this purpose.

**Reporting:**

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined that the emission unit(s) exceeded the emission limitation(s) listed above.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by 10 CSR 10-6.065(6)(C)1.C.(III).



EU4070 Unpaved Roads Training			
Emission Unit	Description	Manufacturer/Model #	2002 EIQ Reference #
EU4070	Training involving the use of unpaved roads are listed below. All roads to be controlled by either a chemical surfactant or water prior to use. a) Obscurant Training – Unpaved Road Emissions b) HMMVV Field Training – Unpaved Road Emissions c) HMMVV Tactical Training – Unpaved Road Emissions d) BIDS/FOX Reconnaissance Vehicle – Unpaved Road Emissions		a) EP43 b) EP44 c) EP45 d) EP46

### Permit Condition EU4070-001

10 CSR 10-6.060

#### Construction Permits Required

Air Pollution Control Program Construction Permit #082002-024

#### Emission Limitation:

1. USA MANSCEN-FLW shall not conduct in excess of 1,825,000 vehicle miles traveled on unpaved road surfaces for the new driver training activities added under this permit in any consecutive 12-month period. Only the driver training activities that are conducted on unpaved road surfaces and are also associated with the following new driver training emission sources added under this permit shall be included toward the above restriction on vehicle miles traveled.
  - a) Obscurant Training (FLW 43),
  - b) HMMWV Field Training (FLW 44),
  - c) HMMWV Tactical Training (FLW 45), and
  - d) BIDS/FOX Road Training (FLW 46).

#### Equipment and Operation Parameters:

USA MANSCEN-FLW shall take any additional measures and/or operational restrictions, as necessary, whenever conditions exist which would allow the visible fugitive emissions from the above new unpaved road driver training activities added under this permit from entering the ambient air beyond the property boundary of this installation

#### Monitoring/Record Keeping:

1. USA MANSCEN-FLW shall maintain a record of the location(s), daily amount(s) and approximate time(s) of the above new unpaved road driver training activities added under APCP Construction Permit #082002-024 that are conducted at this installation.
2. USA MANSCEN-FLW shall maintain an accurate record of the monthly, and 12-consecutive months vehicle miles traveled on the above new unpaved road driver training activities added under APCP Construction Permit #082002-024.
3. USA MANSCEN-FLW shall use Attachment UPRT-1; *New Driver Training on Unpaved Roads – Monthly Vehicle Miles Traveled Tracking Record* or another equivalent form for this purpose.

#### Reporting:

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined that the emission unit(s) exceeded the emission limitation(s) listed above.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

## IV. Core Permit Requirements

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

### **10 CSR 10-3.030, Open Burning Restrictions**

1. The permittee shall not conduct, cause, permit or allow a salvage operation, the disposal of trade wastes or burning of refuse by open burning.
2. Exception - Open burning of trade waste or vegetation may be permitted only when it can be shown that open burning is the only feasible method of disposal or an emergency exists which requires open burning.
3. Any person intending to engage in open burning shall file a request to do so with the director. The request shall include the following:
  - a) The name, address and telephone number of the person submitting the application; The type of business or activity involved; A description of the proposed equipment and operating practices, the type, quantity and composition of trade wastes and expected composition and amount of air contaminants to be released to the atmosphere where known;
  - b) The schedule of burning operations;
  - c) The exact location where open burning will be used to dispose of the trade wastes;
  - d) Reasons why no method other than open burning is feasible; and
  - e) Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction.
4. Upon approval of the open burning permit application by the director, the person may proceed with the operation under the terms of the open burning permit. Be aware that such approval shall not exempt U.S. Army MANSCEN and Fort Leonard Wood from the provisions of any other law, ordinance or regulation.
5. The permittee shall maintain files with letters from the director approving the open burning operation and previous Department of Natural Resources' DNR inspection reports.

### **10 CSR 10-3.090, Restriction of Emission of Odors**

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour.

**This requirement is not federally enforceable.**

### **10 CSR 10-6.050, Start-up, Shutdown and Malfunction Conditions**

1. In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days in writing the following information:
  - a) Name and location of installation;
  - b) Name and telephone number of person responsible for the installation;
  - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
  - d) Identity of the equipment causing the excess emissions;
  - e) Time and duration of the period of excess emissions;
  - f) Cause of the excess emissions;
  - g) Air pollutants involved;
  - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
  - i) Measures taken to mitigate the extent and duration of the excess emissions; and

- j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2. The permittee shall submit the paragraph (1.) information list to the director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
- 3. Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph (1.) list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo.
- 4. Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
- 5. Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

#### **10 CSR 10-6.060, Construction Permits Required**

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

#### **10 CSR 10-6.065, Operating Permits**

The permittee shall file for renewal of this operating permit no sooner than eighteen months, nor later than six months, prior to the expiration date of this operating permit. The permittee shall retain the most current operating permit issued to this installation on-site and shall immediately make such permit available to any Missouri Department of Natural Resources' personnel upon request.

#### **10 CSR 10-6.080, Emission Standards for Hazardous Air Pollutants**

##### **40 CFR Part 61 Subpart M, National Emission Standard for Asbestos**

- 1. The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos.
- 2. The permittee shall conduct monitoring to demonstrate compliance with registration, certification, notification, and Abatement Procedures and Practices standards as specified in 40 CFR Part 61, Subpart M.

#### **10 CSR 10-6.100, Alternate Emission Limits**

Proposals for alternate emission limitations shall be submitted on Alternate Emission Limits Permit forms provided by the department. An installation owner or operator must obtain an Alternate Emission Limits Permit in accordance with 10 CSR 10-6.100 before alternate emission limits may become effective.

**10 CSR 10-6.110, Submission of Emission Data, Emission Fees and Process Information**

1. The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
2. The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079 to satisfy the requirements of the Federal Clean Air Act, Title V.
3. The fees shall be due April 1 each year for emissions produced during the previous calendar year. The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the director.

**10 CSR 10-6.130, Controlling Emissions During Episodes of High Air Pollution Potential**

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

**10 CSR 10-6.150, Circumvention**

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

**10 CSR 10-6.180, Measurement of Emissions of Air Contaminants**

1. The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel.
2. The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
3. The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

**10 CSR 10-6.250, Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements**

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees. Each individual who works in asbestos abatement projects must first obtain certification for the appropriate occupation from the department. Each person who offers training for asbestos abatement occupations must first obtain accreditation from the department. Certain business entities that meet the requirements for state-approved exemption status must allow the department to monitor training classes provided to employees who perform asbestos abatement.

**10 CSR 10-6.280, Compliance Monitoring Usage**

1. The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
  - a) Monitoring methods outlined in 40 CFR Part 64;
  - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
  - c) Any other monitoring methods approved by the director.
2. Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
  - a) Monitoring methods outlined in 40 CFR Part 64;
  - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
  - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
3. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
  - a) Applicable monitoring or testing methods, cited in:
    1. 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
    2. 10 CSR 10-6.040, "Reference Methods";
    3. 10 CSR 10-6.070, "New Source Performance Standards";
    4. 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
  - b) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

**Title VI – 40 CFR Part 82, Protection of Stratospheric Ozone**

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
  - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
  - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
  - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
  - d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
  - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
  - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
  - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
  - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
  - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.

- f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
- 4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR part 82*

## V. General Permit Requirements

### Permit Duration

10 CSR 10-6.065(6)(C)1.B.

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

### General Record Keeping and Reporting Requirements

10 CSR 10-6.065(6)(C)1.C

#### 1. Record Keeping

- a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
- b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.

#### 2. Reporting

- a) The permittee shall submit a report of all required monitoring by:
  1. October 1st for monitoring which covers the January through June time period, and
  2. April 1st for monitoring which covers the July through December time period.
  3. Exception: Monitoring requirements which require reporting more frequently than semi annually, the permittee shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
- b) Each report must identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
- c) All reports shall be submitted to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102.
- d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
  1. Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7 of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if you wish to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and that you can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.
  2. Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.
  3. Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in the permit.

4. These supplemental reports shall be submitted to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

#### **Risk Management Plans Under Section 112(r)**

10 CSR 10-6.065(6)(C)1.D.

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

1. June 21, 1999;
2. Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
3. The date on which a regulated substance is first present above a threshold quantity in a process.

#### **Severability Clause**

10 CSR 10-6.065(6)(C)1.F.

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

#### **General Requirements**

10 CSR 10-6.065(6)(C)1.G

1. The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
2. The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
3. The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and re-issuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, will not stay any permit condition.
4. This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
5. The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.



### **Incentive Programs Not Requiring Permit Revisions**

10 CSR 10-6.065(6)(C)1.H.

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

### **Compliance Requirements**

10 CSR 10-6.065(6)(C)3.

1. Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
2. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
  - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
  - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
  - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
3. All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
  - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
  - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
4. The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1<sup>st</sup>, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 901 North 5<sup>th</sup> Street, Kansas City, Kansas 66101, as well as the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
  - a) The identification of each term or condition of the permit that is the basis of the certification,
  - b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation,
  - c) Whether compliance was continuous or intermittent,
  - d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period, and
  - e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

### **Permit Shield**

10 CSR 10-6.065(6)(C)6.

1. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
  - a) The applicable requirements are included and specifically identified in this permit; or
  - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
2. Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
  - a) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
  - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
  - c) The applicable requirements of the acid rain program,
  - d) The administrator's authority to obtain information, or
  - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

### **Emergency Provisions**

10 CSR 10-6.065(6)(C)7.

1. An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7. shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
  - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
  - b) That the installation was being operated properly,
  - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
  - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
2. Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

### **Operational Flexibility**

10 CSR 10-6.065(6)(C)8.

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program and the Administrator at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that established an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

1. Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.
  - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program and to the Administrator, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and this agency shall place a copy with the permit in the public file. Written notice shall be provided to the administrator and this agency at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, The permittee shall provide notice to the administrator and the permitting authority as soon as possible after learning of the need to make the change.
  - b) The permit shield shall not apply to these changes.

#### **Off-Permit Changes**

10 CSR 10-6.065(6)(C)9.

1. Except as noted below, The permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
  - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; The permittee may not change a permitted installation without a permit revision, if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
  - b) The permittee must provide written notice of the change to the permitting authority and to the administrator no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under paragraph (6)(B)3. of this rule. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
  - c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
  - d) The permit shield shall not apply to these changes.

#### **Responsible Official**

10 CSR 10-6.020(2)(R)12.

The application utilized in the preparation of this was signed by Scott Murrell, Chief, Energy, Environmental, and Natural Resources Division. U.S. Army MANSCEN and Fort Leonard Wood has provided the Missouri Department of Natural Resources with the appropriate supporting documentation designating Ms. Susan S. Halter, Deputy Garrison Commander, as the responsible official. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible

person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

#### **Reopening Permit For Cause**

10 CSR 10-6.065(6)(E)6.

In accordance with 10 CSR 10-6.065(6)(E)6.A., this permit may be reopened with cause if:

1. The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
2. The Missouri Department of Natural Resources or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
3. Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
4. The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
5. The Missouri Department of Natural Resources or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

#### **Statement of Basis**

10 CSR 10-6.065(6)(E)1.C.

This permit is accompanied by a statement setting forth the legal and factual basis for the draft permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

## Attachment A

This attachment may be used to help meet the record keeping requirements of Permit Condition PW003 if required.

[illegible]

Attachment E

There are no combustion units associated with this permit. However, for permit consistency throughout the multiple documents, the heat input information was included in this document.

Unit Description	Heat Input (Q)
General Officers Quarters Space Heating: 2 Natural Gas Units	0.81 MMBtu/hr
MOUT Facility Space Heating (Equip: AC1, 2, 3 & 4): 4 Natural Gas Units	0.16 MMBtu/hr
General Instructional Facility - Lincoln Hall (B1 & B2): 2 Natural Gas Units	3.59 MMBtu/hr
Applied Instruction Facility Space Heating: 39 Natural Gas Units	2.52 MMBtu/hr
Range Modification Space Heating: 42 Natural Gas Units	1.43 MMBtu/hr
Converted Family Housing Space Heating: 23 Natural Gas Units	1.69 MMBtu/hr
UEPH 1 Space Heating: 35 Natural Gas Units	3.83 MMBtu/hr
UEPH 2 Space Heating: 10 Natural Gas Units	2.62 MMBtu/hr
<b>Heat Input (Q) for Project #169-0004-020F</b>	<b>16.65 MMBtu/hr</b>

Total Installation Heat Input	
Heat Input (Q) for Project #169-0004-020A	261.35 MMBtu/hr
Heat Input (Q) for Project #169-0004-020B	2.50 MMBtu/hr
Heat Input (Q) for Project #169-0004-020C	0.00 MMBtu/hr
Heat Input (Q) for Project #169-0004-020E	16.65 MMBtu/hr
Heat Input (Q) for Project #169-0004-020F	64.00 MMBtu/hr
Heat Input (Q) for Project #169-0004-020G	199.89 MMBtu/hr
<b>Total Installation Heat Input (Q)</b>	<b>544.39 MMBtu/hr</b>
PM Allowable Emission Limitation for "New" Units <sup>1</sup> $E = 1.31(Q)^{-0.338}$	0.16 lb PM/MMBtu
PM Allowable Emission Limitation for "Existing" Units <sup>1</sup> $E = 0.90(Q)^{-0.174}$	0.30 lb PM/MMBtu

<sup>1</sup>Compliance calculations for the units subject to 10 CSR 10-5.030 can be found in Attachment F.

Attachment F

There are no combustion units associated with this permit. However, for permit consistency throughout the multiple documents, the heat input information was included in this document.

Unit	Fuel	Maximum Hourly Design Rate <sup>1</sup>	Emission Factor <sup>2</sup>	Boiler Heat Capacity (MMBtu/hr)	Potential Emission Rate <sup>3</sup> (lbs/MMBtu)	Emission Limitation (lbs/MMBtu)
No applicable units at this time.						

<sup>1</sup>Natural Gas: 1050 MMBtu/MMCF  
Units: MMCF/hr  
Fuel Oil: 140 MMBtu/10<sup>3</sup> gallons  
Units: 10<sup>3</sup> gallons/hr

<sup>2</sup>Natural Gas: Emission Factor Source = AP42 Sec 1.4 (7/98)  
Units: lb PM/MMCF  
Fuel Oil: Emission Factor Source = AP42 Sec. 1.3 (9/78)  
Units: lb PM/10<sup>3</sup> gallons

<sup>3</sup>Potential PM Emission Rate = Max. Hourly Design Rate (units/hr) \* Emission Factor (lb/units) \* (1/Boiler Heat Capacity [MMBtu/hr])

Attachment G

This attachment is used to verify compliance with the limitations of 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds.

Emission Unit	Emission Unit Description		SO <sub>2</sub> Emission Factor (lb/MMBtu) <sup>1</sup>	SO <sub>2</sub> Emissions (ppmv) <sup>2</sup>	SO <sub>2</sub> Limit (ppmv)
EU4050	Obscurant Training Fog Oil	Diesel Fuel Oil	0.29 AP42 Tbl 3.3-1 (10/96)	169	500
<sup>1</sup> S = the sulfur content of the fuel <sup>2</sup> General Equation: ppmv SO <sub>2</sub> = SO <sub>2</sub> Emission Factor ÷ F factor ÷ Conversion Factor 1. The SO <sub>2</sub> emission factor is the emission factor presented in the following table. It assumes that all of the sulfur in the fuel is converted to SO <sub>2</sub> emissions. 2. The F factor is the ratio of gas volume of products of combustion to the heat content of the fuel. For fuel oil the F factor is 10,320 wscf/MMBtu. For natural gas the F factor is 10,610 wscf/MMBtu. (40 CFR Part 60 Appendix A Method 19 Tbl 19-1). 3. The conversion factor is 1.660E-7lb/scf per ppmv (40 CFR Part 60 Appendix A Method 19).					

Sulfur emissions in the form of SO<sub>3</sub> converted from SO<sub>2</sub> are considered insignificant and it is highly unlikely that the limitations of 10 CSR 10-6.260(3)(B) will ever be exceeded.



Attachment BFS-1

***BIDS-FOX Simulants – Daily Usage Tracking Record***

FIPS-Plant No.: 169-0004  
U.S. Army Engineer Center and Fort Leonard Wood  
Fort Leonard Wood, MO 65473-8944  
Pulaski County, S21, T35N, R8W

[illegible]

A Daily Amount of BIDS/FOX Material Used (lbs) of no more than 10.0 pounds for BG and no more than 12.1 pounds of Kaolin used in any 24-hour period indicates compliance.

## FIPS-Plant No.: 169-0004

U.S. Army Engineer Center and Fort Leonard Wood  
Fort Leonard Wood, MO 65473-8944  
Pulaski County, S21, T35N, R8W

[illegible]

A Consecutive 12-Month BIDS/FOX Material Usage (lbs) of no more than 100.0 pounds for BG and no more than 100.0 pounds of Kaolin used in any consecutive 12-month period indicates compliance.

Attachment EFE1

*Flame Field Expedient – Daily PM<sub>10</sub> Emissions Tracking Record*

FIPS-Plant No.: 169-0004  
U.S. Army Engineer Center and Fort Leonard Wood  
Fort Leonard Wood, MO 65473-8944  
Pulaski County, S21, T35N, R8W

This sheet cover the period from \_\_\_\_\_ to \_\_\_\_\_ (Day, Month, Year).

Date	Time of Day FFE Training was Conducted	Location Where FFE Training was Conducted	Daily FFE Gasoline/JP8 Consumed (lbs)	Daily FFE Thickener Consumed (lbs)	Total FFE Fuel Consumed in 24 Hour Period (lbs) <sup>1</sup>	PM <sub>10</sub> Compliance Factor (lbs PM <sub>10</sub> /lbs Fuel) <sup>2</sup>	Daily PM <sub>10</sub> Emissions (lbs) <sup>3</sup>

<sup>1</sup>The Daily FFE Fuel Consumed can be calculated by adding the Daily FFE Gasoline/JP8 Consumed with the Daily FFE Thickener Consumed.

<sup>2</sup>The PM<sub>10</sub> emission factor for the FFE processes are in the units of pound of PM<sub>10</sub> emitted per pound of FFE fuel consumed. This PM<sub>10</sub> Compliance Factor, as of the time of the issuance of this permit, is 0.1295 pounds of PM<sub>10</sub> emitted per pound of FFE fuel consumed.

<sup>3</sup>The daily PM<sub>10</sub> Emissions (Lbs) can be obtained by multiplying the Daily FFE Fuel Consumed (Lbs) by the PM<sub>10</sub> Compliance Factor (Lbs PM<sub>10</sub>/Lbs of Fuel). A daily PM<sub>10</sub> Emission rate of no more than 1311.72 lbs per day indicates compliance (approx. 1659 gallons of FFE gasoline/JP8 consumed per day).

## Attachment EFE2

### Flame Field Expedient - Monthly PM<sub>10</sub> Emissions Tracking Record

FIPS-Plant No.: 169-0004  
U.S. Army Engineer Center and Fort Leonard Wood  
Fort Leonard Wood, MO 65473-8944  
Pulaski County, S21, T35N, R8W

[illegible]

<sup>1</sup>The PM<sub>10</sub> emission factor for the FFE processes are in the units of pounds of PM<sub>10</sub> emitted per pound of FFE fuel consumed. This PM<sub>10</sub> Compliance Factor, as of the time of the issuance of this permit, is 0.1295 pounds of PM<sub>10</sub> emitted per pound of FFE fuel consumed.

<sup>2</sup>Column 1 x Column 2 ÷ 2000.

<sup>3</sup>Sum of last 12-months of Column 3. A 12-Month Total PM<sub>10</sub> emissions of less than 8.954 tons for Column 4 indicates compliance. This limitation equates to a maximum FFE Gasoline consumption rate of 22,550 gallons during any consecutive 12-month period.

## Attachment SG-1

### Daily Smoke Grenade Usage Tracking Record

FIPS-Plant No.: 169-0004  
U.S. Army Engineer Center and Fort Leonard Wood  
Fort Leonard Wood, MO 65473-8944  
Pulaski County, S21, T35N, R8W

[illegible]

The Daily Totals – Smoke Grenade Usage can be calculated by summing the number of smoke grenades used at each smoke grenade training site for a single 24-hour period. A “Total Daily Smoke Grenade Usage” rate of no more than 480 smoke grenades during any 24 hour period indicates compliance.

Attachment SG-2

*Monthly Smoke Grenade Usage Tracking Record*

FIPS-Plant No.: 169-0004  
U.S. Army Engineer Center and Fort Leonard Wood  
Fort Leonard Wood, MO 65473-8944  
Pulaski County, S21, T35N, R8W

Month & Year	Number of Smoke Grenades Used per Month	Consecutive 12-month Smoke Grenade Usage <sup>1</sup>	Month & Year	Number of Smoke Grenades Used per Month	Consecutive 12-month Smoke Grenade Usage <sup>1</sup>

<sup>1</sup>Consecutive 12-month Smoke Grenade Usage of no more than 13,000 smoke grenades indicates compliance.

Attachment EG-1

*Fog Oil Training – Daily Usage Tracking Record*

FIPS-Plant No.: 169-0004  
U.S. Army Engineer Center and Fort Leonard Wood  
Fort Leonard Wood, MO 65473-8944  
Pulaski County, S21, T35N, R8W

Date	Time of Day Fog Oil Activity Was Conducted (hours)	Location Where Fog Oil Training was Conducted	Amount of Fog Oil Used for Training Activities (gallons)	Location Where Non-Obscurant Training Activities was Conducted	Amount of Fog Oil Used for Non-Obscurant Training Activities (gallons)	Total Daily Amount of Fog Oil Consumed (gallons) <sup>1</sup>

<sup>1</sup>The Total Daily Amount of Fog Oil Consumed (Gallons) can be calculated by summing the Amount of Fog Oil Used for Training Exercise and the Amount of Fog Oil Used in Non-Obscurant Training Activities. A Total Daily Amount of Fog Oil Consumed rate of no more than 1,200 gallons indicates compliance.

### *Fog Oil Training – Monthly Usage Tracking Record*

Pulaski County, S21, T35N, R8W

[illegible]

A Consecutive 12-Month Fog Oil Consumption (Gallons) of no more than 65,000 gallons of fog oil used in any consecutive 12-month period indicates compliance.



## Attachment SP-1

### *Smoke Pot – Daily Usage Tracking Record*

FIPS-Plant No.: 169-0004

U.S. Army Engineer Center and Fort Leonard Wood

Fort Leonard Wood, MO 65473-8944

Pulaski County, S21, T35N, R8W

[illegible]

<sup>1</sup>A Daily Total Smoke Pots Usage of no more than 49 smoke pots used in any 24-hour period indicates compliance.

Attachment SP-2

***Smoke Pot – Monthly Usage Tracking Record***

FIPS-Plant No.: 169-0004  
U.S. Army Engineer Center and Fort Leonard Wood  
Fort Leonard Wood, MO 65473-8944  
Pulaski County, S21, T35N, R8W

Month & Year	Number of Smoke Pots Used per Month	Consecutive 12- month Smoke Pot Usage <sup>1</sup>	Month & Year	Number of Smoke Pots Used per Month	Consecutive 12- month Smoke Pot Usage <sup>1</sup>

<sup>1</sup>A Consecutive 12-Month Smoke Pot Usage of no more than 840 smoke pots used in any consecutive 12-month period indicates compliance.

Attachment UPRT-1

*New Driver Training on Unpaved Roads – Monthly Vehicle Miles Traveled Tracking Record*

FIPS-Plant No.: 169-0004  
U.S. Army Engineer Center and Fort Leonard Wood  
Fort Leonard Wood, MO 65473-8944  
Pulaski County, S21, T35N, R8W

Month & Year	Monthly Amount of New BRAC Driver Training Conducted on Unpaved Roads (VMT)	Consecutive 12-Month New BRAC Driver Training Conducted on Unpaved Roads (VMT) <sup>1</sup>	Month & Year	Monthly Amount of New BRAC Driver Training Conducted on Unpaved Roads (VMT)	Consecutive 12-Month New BRAC Driver Training Conducted on Unpaved Roads (VMT) <sup>1</sup>

<sup>1</sup> A Consecutive 12-Month New BRAC Driver Training Conducted on Unpaved Roads (VMT) of less than 1,825,000 vehicle miles traveled (VMT) indicates compliance

## STATEMENT OF BASIS

### Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

1. Part 70 Operating Permit Application, received May 15, 1997;
2. 2000 Emissions Inventory Questionnaire, received April 2, 2001, revised May 25, 2001;
3. U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition;
4. Air Pollution Control Program Construction Permit #072003-022;
5. Air Pollution Control Program Construction Permit #062003-005;
6. Air Pollution Control Program Construction Permit #082000-006;
7. Air Pollution Control Program Construction Permit #082000-004;
8. Air Pollution Control Program Construction Permit #1099-001C;
9. Air Pollution Control Program Construction Permit #1099-001B;
10. Air Pollution Control Program Construction Permit #1099-001A;
11. Air Pollution Control Program Construction Permit #1099-001;
12. Air Pollution Control Program Construction Permit #0999-015;
13. Air Pollution Control Program Construction Permit #0699-002;
14. Air Pollution Control Program Construction Permit #0998-032;
15. Air Pollution Control Program Construction Permit #0897-013;
16. Air Pollution Control Program Construction Permit #0697-003;
17. Air Pollution Control Program Construction Permit #0895-030;
18. Air Pollution Control Program Construction Permit #0695-010A;
19. Air Pollution Control Program Construction Permit #0695-010;
20. Air Pollution Control Program Construction Permit #0495-013A;
21. Air Pollution Control Program Construction Permit #0495-013;
22. Air Pollution Control Program Construction Permit #0294-007A;
23. Air Pollution Control Program Construction Permit #0294-007;
24. Air Pollution Control Program Construction Permit #0891-003;
25. Air Pollution Control Program Construction Permit #0790-007;
26. Air Pollution Control Program Construction Permit #0590-004;
27. Air Pollution Control Program Construction Permit #0983-019;
28. Air Pollution Control Program Construction Permit #0979-030;
29. Air Pollution Control Program Construction Permit #0879-(010-011);
30. Air Pollution Control Program Construction Permit #0179-(006-016).

### Applicable Requirements Included in the Operating Permit but Not in the Application

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

1. 10 CSR 10-6.180, *Measurement of Emissions of Air Contaminants*,  
This rule has been included in the operating permit in order to provide citing for the allowance of requests for emissions data results. On past forms issued by the Air Pollution Control Program, including the application for this permit, it was automatically marked as an administrative rule not required to be listed as an applicable

requirement. It is no longer judged to be solely administrative and is, therefore, included in the operating permit as a core permit requirement.

2. 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*

This rule has essentially replaced 10 CSR 10-3.100, *Restriction of Emission of Sulfur Compounds*, and 10 CSR 10-3.150, *Restriction of Emission of Sulfur Compounds From Indirect Heating Sources*. It has been determined to be applicable to the installation and therefore has been included in the operating permit.

**Other Air Regulations Determined Not to Apply to the Operating Permit**

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

10 CSR 10-6.240, *Asbestos Abatement Projects – Registration, Notification, and Performance Requirements*.

This rule has been determined not to apply to the installation and omitted from the operating permit.

**Construction Permit Revisions**

Currently, there are no construction permit revisions associated with this permit.

**NSPS Applicability**

Currently, there are no NSPSs that apply to the emission units covered under this permit.

**MACT Applicability**

Currently, there are no MACTs that apply to the emission units covered under this permit.

**NESHAP Applicability**

40 CFR Part 61, Subpart M, *National Emission Standard for Asbestos*, applies to the installation because of the renovation and demolition parts of the subpart which makes the subpart applicable to all sources. It is included as a core permit requirement.

**Other Regulatory Determinations**

1. The units listed in the "Emission Units Without Limitations" section in the front of this permit either have no applicable regulations associated with them or are considered insignificant activities by the operating permit application. Those units include, but are not limited to, all natural gas/LPG units with a maximum heat input of less than 10 mmBtu/hr and those that burn other fuels and have a heat input of less than 1 mmBtu/hr.
2. 10 CSR 10-6.170, *Restriction of Particulate Matter to the Ambient Air Beyond the Premise of Origin*, is applicable to the installation. Due to the size and unique geographical aspects of the installation it is highly unlikely that the installation will ever exceed the emission limitations of 10 CSR 10-6.170, therefore no monitoring, record keeping and reporting is necessary unless required by the Director.
3. 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*, was not included in the operating permit. The smoke-generating devices (EU4050 and EU4060) are specifically exempted from the rule. All other emission units were deemed to be fugitive emissions and regulated by 10 CSR 10-6.170, *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*.
4. 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*. Attachment G represents compliance calculations necessary to verify compliance with this regulation.

The space heating units listed under Emission Units without Limitations Section of this permit are subject to 10 CSR 10-6.260. However, they are specifically exempted from the operating permit requirements per 10 CSR 10-6.065 and as such, the applicable requirements for these units are not included in the operating permit.

1. 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter*, was not included in the operating permit. All emission units included in this permit are either fugitive emission sources or are smoke-generating devices. Both of these types of emission units are specifically exempted from the rule.
2. 10 CSR 10-3.060, *Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*. Attachments E and F represent emission limit and compliance calculations necessary to verify compliance with this regulation. There are no combustion units associated with this permit. However, for permit consistency throughout the multiple operating permits, the heat input information was included in this permit.
3. Several Air Pollution Control Program Construction Permits have been issued to various emission units associated with this Title V permit. However, not all were included in this permit for the following reasons.
  - a) Air Pollution Control Program Construction Permit #0999-015 was issued to allow the fog oil generators (EU4050) to combust JP-8 as a fuel in addition to unleaded gasoline. This construction permit contained no special conditions and, as such, was not included in the operating permit.
  - b) Air Pollution Control Program Construction Permit #0695-010 and its amendment 0695-010A were issued for the fog oil smoke training (EU4050). However, Air Pollution Control Program Construction Permit #1099-001 superceded the special conditions of these construction permits.

#### **Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis**

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one (1) or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;
5. The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the APCP's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).

Prepared by:



Michael Van Cleave  
Environmental Engineer